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AMENDMENTS TO THE CLAIMS

(The following includes a complete listing of all claims with their current status indicated. Additional language is underscored; deletions are stricken through.)

1. (Currently Amended) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN, TaN, WN, and W; oxidizing an upper surface of said non-oxide electrode using an O₃ gas plasma; depositing a high dielectric constant oxide dielectric material directly onto the oxidized surface of said non-oxide electrode; and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.
2. (Original) A method as claimed in claim 1 wherein the oxidation of said upper surface of said non-oxide electrode is carried out in an atmosphere containing an oxidizing gas selected from the group consisting of O₂, O₃, H₂O, and N₂O.
3. (Original) A method as claimed in claim 1 wherein the oxidation of said upper surface of said non-oxide electrode is carried out at a temperature in the range of from about 250° to about 700°C.
4. (Canceled)
5. (Original) A method as claimed in claim 1 wherein said high dielectric constant oxide dielectric material is selected from the group consisting of Al₂O₃, Ta₂O₅ and Ba_xSr_(1-x)TiO₃.
6. (Original) A method as claimed in claim 1 wherein the oxidation of said upper surface of said non-oxide electrode is performed in an oxide dielectric deposition chamber under oxidizing conditions prior to the deposition of said high dielectric constant oxide dielectric material.

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7. (Canceled)

8. (Previously Presented) A method as claimed in claim 1 wherein the oxidation is carried out at a temperature in the range of from about 250° to about 500° C.

9. (Previously Presented) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN, TaN, WN, and W, oxidizing an upper surface of said non-oxide electrode using an O₃ gas plasma, depositing a high dielectric constant oxide dielectric material directly onto the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

10. (Original) A method as claimed in claim 9 wherein said high dielectric constant oxide dielectric material is selected from the group consisting of Al₂O₃, Ta₂O₅ and Ba_xSr_(1-x)TiO₃.

11. (Original) A method as claimed in claim 9 wherein the oxidation of said upper surface of said non-oxide electrode is carried out in an atmosphere containing an oxidizing gas selected from the group consisting of O₂, O₃, H₂O, and N₂O.

12. (Original) A method as claimed in claim 9 wherein the oxidation of said upper surface of said non-oxide electrode is carried out at a temperature in the range of from about 250° to about 700°C.

13. (Original) A method as claimed in claim 9 wherein the oxidation of said upper surface of said non-oxide electrode is performed in an oxide dielectric deposition chamber under oxidizing conditions prior to the deposition of said high dielectric constant oxide dielectric material.

14. (Canceled)

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15. (Previously Presented) A method as claimed in claim 9 wherein the oxidation is carried out at a temperature in the range of from about 250° to about 500° C.

16. (Previously Presented) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN, TaN, WN, and W, oxidizing an upper surface of said non-oxide electrode using an O₃ gas plasma, depositing a high dielectric constant oxide dielectric material selected from the group consisting of Al₂O₃, Ta₂O₅ and Ba_xSr_(1-x)TiO₃ directly onto the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

17. (Original) A method as claimed in claim 16 wherein the oxidation of said upper surface of said non-oxide electrode is carried out in an atmosphere containing an oxidizing gas selected from the group consisting of O₂, O₃, H₂O, and N₂O.

18. (Original) A method as claimed in claim 16 wherein the oxidation of said upper surface of said non-oxide electrode is carried out at a temperature in the range of from about 250° to about 700°C.

19. (Original) A method as claimed in claim 16 wherein the oxidation of said upper surface of said non-oxide electrode is performed in an oxide dielectric deposition chamber under oxidizing conditions prior to the deposition of said high dielectric constant oxide dielectric material.

20. (Canceled)

21. (Previously Presented) A method as claimed in claim 16 wherein the oxidation is carried out at a temperature in the range of from about 250° to about 500° C.

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22. (Currently Amended) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN, TaN, WN, and W, in a deposition chamber oxidizing an upper surface of said non-oxide electrode, in the same deposition chamber depositing a high dielectric constant dielectric material directly onto the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

23. (Currently Amended) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN, TaN, WN, and W, oxidizing an upper surface of said non-oxide electrode at a temperature in the range of from about 250° to about 700° C in an atmosphere containing a gas selected from the group consisting of O₂, O₃, H₂O, and N₂O, depositing a high dielectric constant dielectric material directly onto the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

24. (Canceled)

25. (Currently Amended) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN, TaN, WN, and W, oxidizing an upper surface of said non-oxide electrode in an atmosphere containing a gas plasma generated from a gas selected from the group consisting of O₂, O₃, H₂O, and N₂O, depositing a high dielectric constant dielectric material directly onto the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

26. (Original) A method as claimed in claim 25 wherein the oxidation of said upper surface of said non-oxide electrode is carried out at a temperature in the range of from about 250° to about 500°C.

27. (Canceled)

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28. (Original) A method as claimed in claim 25 wherein said high dielectric constant oxide dielectric material is selected from the group consisting of Al_2O_3 , Ta_2O_5 and $\text{Ba}_x\text{Sr}_{(1-x)}\text{TiO}_3$.

29. (Original) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN, TaN, WN, and W, oxidizing an upper surface of said non-oxide electrode in an atmosphere containing a gas plasma generated from a gas selected from the group consisting of O_2 , O_3 , H_2O , and N_2O , depositing a high dielectric constant oxide dielectric material selected from the group consisting of Al_2O_3 , Ta_2O_5 and $\text{Ba}_x\text{Sr}_{(1-x)}\text{TiO}_3$ on the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

30. - 37. (Canceled)

38. (Previously Presented) A method of forming a DRAM cell comprising providing a non-oxide electrode, oxidizing an upper surface of said non-oxide electrode, depositing a layer of a high dielectric constant oxide dielectric material directly onto the oxidized surface of said non-oxide electrode, depositing an upper layer electrode on said layer of said high dielectric constant oxide dielectric material, providing a field effect transistor having a pair of source/drain regions, electrically connecting one of said source/drain regions with said conductive oxide electrode and electrically connecting the other of said source/drain regions with a bit line.

39. (Previously Presented) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN, TaN, WN, and W, in a deposition chamber oxidizing an upper surface of said non-oxide electrode in an atmosphere containing a gas plasma generated from a gas selected from the group consisting of O_2 , O_3 , H_2O , and N_2O , in the same deposition chamber depositing a high

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dielectric constant oxide dielectric material selected from the group consisting of Al_2O_3 , Ta_2O_5 and $\text{Ba}_x\text{Sr}_{(1-x)}\text{TiO}_3$ on the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

40. (Previously Presented) A method for forming a capacitor comprising: providing a non-oxide electrode, in a deposition chamber oxidizing an upper surface of said non-oxide electrode in an atmosphere containing a gas plasma generated from a gas selected from the group consisting of O_2 , O_3 , H_2O , and N_2O , in the same deposition chamber depositing a high dielectric constant dielectric material on the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

41. (Previously Presented) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN , TaN , WN , and W , in a deposition chamber oxidizing an upper surface of said non-oxide electrode, in the same deposition chamber depositing a high dielectric constant oxide dielectric material directly onto the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

42. (Canceled)

43. (Previously Presented) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN , TaN , WN , and W , oxidizing an upper surface of said non-oxide electrode, depositing a high dielectric constant oxide dielectric material directly onto the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.

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44. (Previously Presented) A method for forming a capacitor comprising: providing a non-oxide electrode selected from the group consisting of TiN, TaN, WN, and W, oxidizing an upper surface of said non-oxide electrode, depositing a high dielectric constant oxide dielectric material selected from the group consisting of Al_2O_3 , Ta_2O_5 and $\text{Ba}_x\text{Sr}_{(1-x)}\text{TiO}_3$ directly onto the oxidized surface of said non-oxide electrode, and depositing an upper layer electrode on said high dielectric constant oxide dielectric material.